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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,157	04/30/2001	Gary Goldman	81862.P218	6017

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09/29/2004

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EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,157

Applicant(s)

GOLDMAN ET AL.

Examiner

Anh-Vu H Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figures 1A-C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4, 6-8, 10-11, 13-14, 16-20, and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Chapman et al (US Patent No. 6,304,552 B1). Hereinafter, referred to as Chapman.

With respect to claims 1, 7, 13, and 19, Chapman discloses in Fig. 3, an access point router, which includes interfaces 302 and 304 for receiving data packets. Chapman discloses in Fig. 1 that data packets are classified as either class 1 (C1) or class 2 (C2). Further, Chapman discloses in Fig. 4 that minimum and maximum bandwidth allocated to the class of traffic as

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received by the access point router (receiving data segments of at least one class of service at each of a plurality of ingress line cards, each class of service having a guaranteed percentage of transmission bandwidth). Chapman discloses (col. 9, lines 28-64) that based on the comparison between the accounting value and the bandwidth settings, a priority setting is established for the queue associated with the logical pathway between ports A and K, either HI or LO (marking a portion of the data segments of each class of service based on the guaranteed percentage of bandwidth of the class of service). If the accounting result is less than its minimum bandwidth, in this example 3Mb/s, the queue priority will be HI (if data transmitted from a class of service is less than the guaranteed percentage of transmission bandwidth of the class of service, all the data segments of the class are marked). Further, since class 2 traffic has reserved bandwidth with overflow and because a C2 queue which accounts for an output rate of traffic equal to the minimum bandwidth allocated can continue competing for spare bandwidth with other C2 queues until reaches its constraining maximum. When competing for spare bandwidth, a queue will have a LO priority setting (if data transmitted from a class of service exceeds the guaranteed percentage of transmission bandwidth of the class of service, the number of data segments marked corresponds to the guaranteed percentage of transmission bandwidth of the class of service). Once the queue's priority setting has been established, its outgoing packets are tagged to reflect the queue's priority status, through the state of a single bit in the packet header. If the bit is set, the data packet is being sent with HI priority; if the bit is cleared, the data packet is being sent with LO priority. Alternatively, the priority could be set through a multi-bit code point added outside of the original packet as an extra tag, together with the ring source and destination information. The controller 308 will schedule data packet transmission for the

various queues so as to move traffic from Hi priority requests before traffic from LO priority requests (preferentially transmitting the marked data segments from each class of service).

With respect to claims 2, 8, 14, and 20, Chapman discloses (col. 10, lines 25-28) that the controller 308 uses a round-robin scheduling policy to schedule packet release permissions for LO request traffic queues, as this ensures equal competition between all of these queues for any available spare bandwidth. Herein, since LO is different from HI, it is also considered as unmarked by examiner (transmitting unmarked data segments from each class of service equally).

With respect to claims 4, 10, 16, and 22, Chapman discloses in Fig. 7, a diagram showing the format of an IP data packet (wherein the data segments are data types selected from the group consisting of frame relay packet, voice transmission data, IP packet, or circuit emulation service packet).

With respect to claims 6 and 18, Chapman discloses (col. 9, lines 62-64) that the controller 308 will schedule data packet transmission for the various queues so as to move traffic from Hi priority requests before traffic from LO priority requests (preferentially transmitting the marked data segments includes guaranteeing the marked data segments are transmitted prior to transmitting the unmarked segments).

With respect to claims 11, 17, and 23, Chapman discloses (col. 9, lines 53-55) that once the queue's priority setting has been established, its outgoing packets are tagged to reflect the queue's priority status, through the state of a single bit in the packet header (wherein marking includes implementing a must-serve bit on the cell).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 5, 9, 12, 15, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman et al (US Patent No. 6,304,552 B1).

With respect to claims 3, 9, 15, and 21, Chapman discloses (see Abstract) a method of supporting priorities in a switch. Chapman does not disclose wherein the data segments are ATM cells. However, ATM cells having different quality of service are well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teachings of Chapman in ATM cells of ATM networks, therefore, bandwidth can be allocated efficiently among different prioritized traffic.

With respect to claim 5, Chapman discloses (col. 9, lines 53-55) that once the queue's priority setting has been established, its outgoing packets are tagged to reflect the queue's priority status, through the state of a single bit in the packet header (wherein marking includes implementing a must-serve bit on the cell).

With respect to claims 12 and 24, Chapman discloses (col. 9, lines 62-64) that the controller 308 will schedule data packet transmission for the various queues so as to move traffic from Hi priority requests before traffic from LO priority requests (preferentially transmitting the marked data segments includes guaranteeing the marked data segments are transmitted prior to transmitting the unmarked segments).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chow et al (US Patent No. 6,438,134 B1) discloses two-component bandwidth scheduler having application in multi-class digital communications systems.

Cheesman et al (US Patent No. 6,680,933 B1) discloses telecommunications switches and methods for their operation.

Yang et al (US Pub 2001/0051992 A1) discloses unified algorithm for frame scheduling and buffer management in differentiated services networks.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800 9/27/04